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ABSTRACT

This paper, in both English and Spanish, offers a meta-model of the learning process which focuses on the importance of the reflective learning process in enhancing the quality of learning in higher education. This form of innovative learning is offered as a means of helping learners to realize the relevance of what they are learning to their life experiences. The paper suggests that faculty need to realize the importance of learners being deeply involved in their own learning in order to enhance the learning experience and its impact. Supportive discussions involve a review of the entire learning process through each of six components or perspectives of life experience. These are development, time, culture, trust, human need, and the life-world frame of reference. Five reflective learning steps (experience/experiment, observe, reflect/analyze, evaluate relevance, and plan to apply) are explained for each of two levels. In the first, the learner uses the steps to discover new choices, and in the second the learner experiences the freedom of going beyond pre-existing limits. It is argued that the reflective learning strategy, as described by the meta-model, is easy to acquire because it is a natural process; and if one focuses on this process, with supporting guidance and feedback, one can learn to be more effective in moving through it. Contains 37 references. (GLR)

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Reflection, A Meta-Model for Learning, and
A Proposal to Improve the Quality of University Teaching

REFLEXION, EL META-MODELO DEL APRENDIZAJE, Y LA PROPUESTA DEL MEJORAMIENTO DE LA CALIDAD DE LA DOCENCIA

Joel R. Montgomery, Ed.D.

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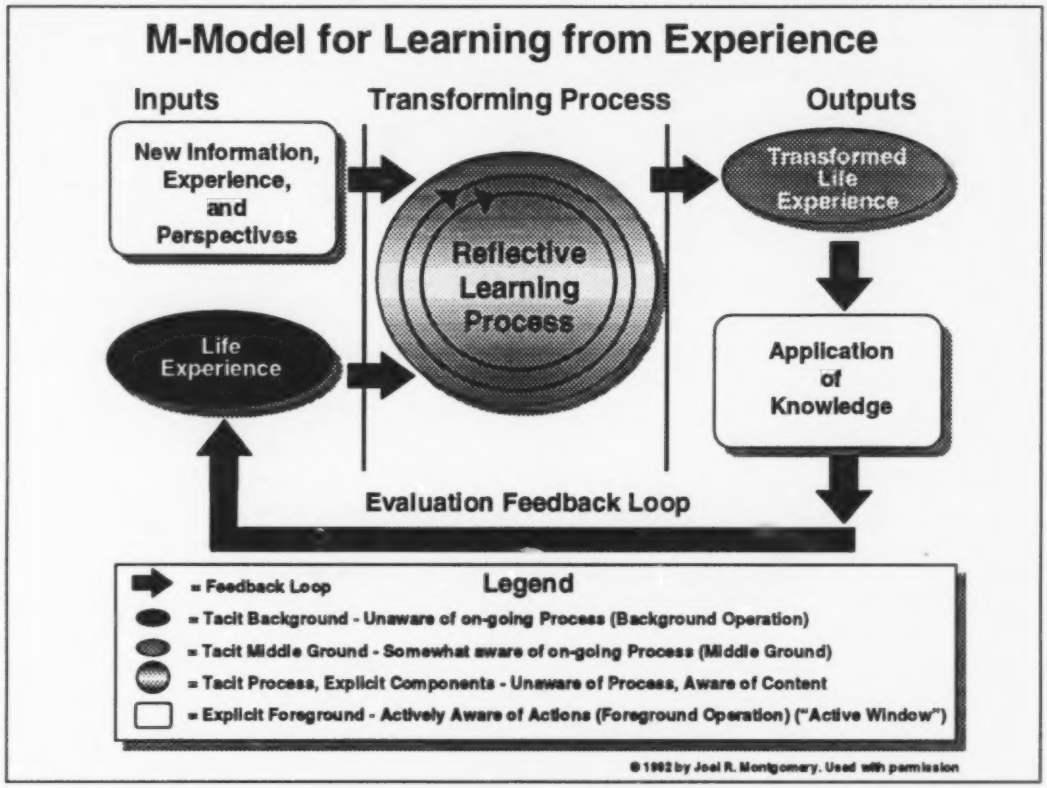
Reflection, A Meta-Model for Learning, and
A Proposal to Improve the Quality of University Teaching

by

Joel R. Montgomery, Ed.D.

We need to improve our habits of reflecting in the moment of action rather than reflecting after the moment of action. At the same time, reflection on an action after it has occurred can also improve the quality of similar actions in the future. This process of reflection is very important for learning because it gives significance and meaning to experience.

First, let's take a look from a high-level perspective at a meta-model[1] of learning.


M-Model for Learning from Experience
Inputs
Transforming Process
Outputs
New Information, Experience, and Perspectives
Life Experience
Reflective Learning Process
Transformed Life Experience
Application of Knowledge
Evaluation Feedback Loop
Legend
= Feedback Loop
= Tacit Background - Unaware of on-going Process (Background Operation)
= Tacit Middle Ground - Somewhat aware of on-going Process (Middle Ground)
= Tacit Process, Explicit Components - Unaware of Process, Aware of Content
= Explicit Foreground - Actively Aware of Actions (Foreground Operation) ("Active Window")
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1 This meta-model was created by a new fusion of parts of many other models of learning. See *The development, application, and implications of a strategy for reflective learning from experience*, by Joel R. Montgomery, 1992. Available from University Microfilms International Dissertation Information Service, 300 N. Zeeb Road, Ann Arbor, Michigan 48106 USA (303-761-5700). The number of the dissertation is 9229831.

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The meta-model for learning refers to a dynamic process that includes inputs, a transforming process, outputs, and a feedback loop. We will look at some of the sub-components in more detail in a few moments. For now, let's look at the entire process of learning. Life experience is a major component that we use as a background against which to work with new material presented to us in any form. We attempt to integrate the new material with our life experience during the reflective learning process in which the new material is incorporated into our transformed life experience. We constantly evaluate the relevance to our life experience of the new knowledge during the reflective learning process and as a part of the evaluation feedback loop. It is critically important to attempt to put the new knowledge into practice as soon as possible to test its relevance consciously before relegating the information to the background of our awareness where we may or may not be able to access it upon demand.[2]

Life experience is, itself, composed of many components, each with its particular researchers[3] and theories. Several of these sub-sub-components are identified in the figure that follows.

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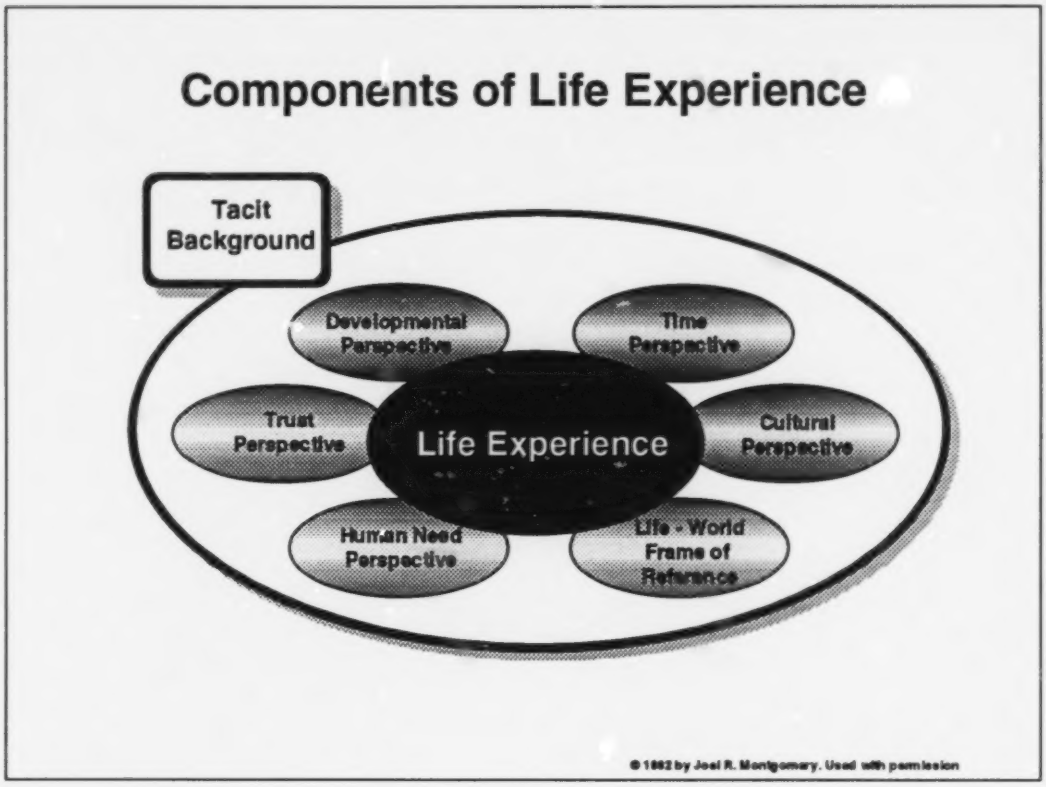
2 Details regarding the multiple levels of awareness involved in learning are not covered in this presentation in the interests of time. For more information see Montgomery (1989, 1992).

3 For details regarding research on each of these sub-sub-components, see Montgomery, 1992, chapter III (pages 57-69).



Each of these perspectives is combined into an overall perspective of life experience that we bring to a new learning experience. The developmental perspective refers to the various stages of development through which we pass from birth to old age. Within each stage various aspects of life and development assume greater focus and priority. The time perspective deals with how we deal with time. For a baby, two hours seems like forever; for a man of fifty, five years may pass in the blink of an eye. The cultural perspective refers to ethnic cultural heritage as well as the influences of family culture and organizational cultures to which we are exposed throughout our lifetime. The life-world frame of reference refers to the process of thought we habitually use, our ingrained models for measuring possibilities, success, failure, comfort, risk, happiness, and our structure of beliefs about the world and our place in it now and in the future. The human need perspective refers to the sequencing of needs from physiological and psychological survival to safety, to love, affection, and belongingness, to esteem, to self-actualization, to transpersonal needs of adding value to society. All areas of need press

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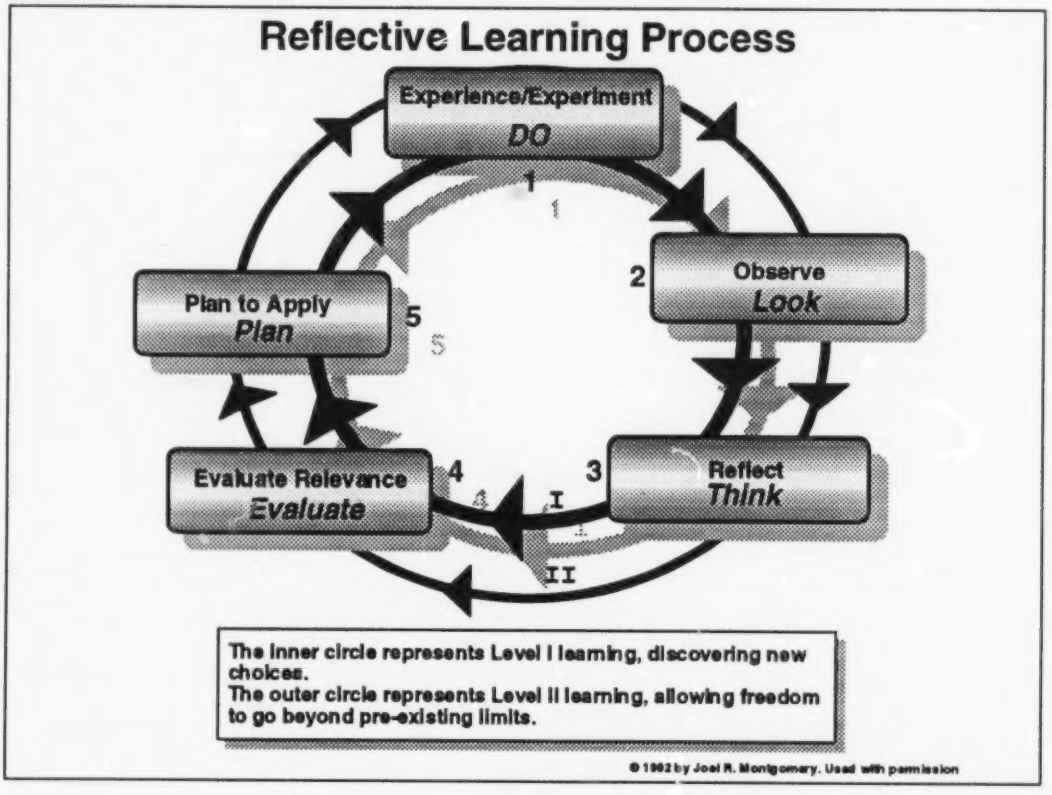
simultaneously for fulfillment; the ones most unfulfilled press most strongly. The trust perspective refers to trust of ourselves and others, forcing an extension of trust beyond the individual.

Moving back to the overall view of the meta-model, we need to involve ourselves in the process of reflective learning to integrate the new material into our life experience. If this is not done, we have the problem of three "R'S."[4] When relevance of the material to our life experience is not confirmed, we tend to reject it from our consciousness at a rapid pace.

Let's turn now to the process of reflective learning.



The reflective learning process is conceived as at least a two-level process with five steps on each level. The following diagram may make it easier to see the steps in detail.

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4 "Retain, Regurgitate on an Exam, then Reject as soon as possible." In Spanish the phenomenon is referred to as "AVO" (Assimilate as much as possible, vomit it forth on the exam, and forget it as quickly as possible).

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Ten Action Steps in the Reflective Learning Process

Action Step	Level I	Level II
Experience/ Experiment	1. The learner participates in a concrete experience involving internal or external behavior by self and/or others.	6. The learner tests the generalizations developed in step five in a new situation (experience/experiment)
Observe	2. The learner looks at specific behaviors of self or others, (internalized behaviors, decisions, choices) or externalized behaviors (actions)).	7. The learner looks at the same behaviors or elements as in step two or at new ones suggested by the experimental situation. This is also an opportunity for the learner to practice reflection-in-action as he consciously applies the action plan he developed at step five, above.
Reflect/ Analyze	3. The learner reflects on the impact those behavior or elements had on producing desired outcomes in the experience; reflects on underlying attitudes, values, beliefs, and experience which led to the use of the behaviors involved.	8. The learner duplicates the analyze/reflect processes of step three using the information gathered from the new experience and adds reflection based on the first experience and the generalizations produced from reflection on that experience.
Evaluate Relevance	4. The learner evaluates the relevance of this new material in light of the learner's frame of reference. If it is "too familiar", he may pass it though his senses automatically, isolating it in his memory and not processing it for explicit recall. If the material is congruent, without being regarded as "too familiar," he will tend to consider it relevant and he will integrate it into his frame of reference.	9. The learner evaluates the relevance of his new reflections in light of the learner's expanded frame of reference based on insights developed from the experience reflected upon in Level I. This step also affords another opportunity for insight and a shift to a higher perspective, identifying behavior patterns that may apply to several very different contexts of life experience.
Plan to Apply	5. The learner develops a personal action plan based on this experience and reflection as to effective behavior [or elements) and alternative behaviors [or elements] that might be more effective in similar situations in the future; look for behavioral patterns and any need for potential upgrading of attitudes, values , beliefs.	10. The learner develops a revised personal action plan based on this experience and reflection as to effective behaviors [or elements] and alternative behaviors [or elements] that might be more effective in similar situations in the future; looks for behavioral patterns and any need for potential upgrading of attitudes, values , beliefs; develop insights based on secondary reflection from repeated experience and experimentation. The learner may look for ways to apply this plan from a higher perspective, producing more profound changes in his life experience and moving beyond pre-existing limits.

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After we have completed the ten steps of the process of reflective learning, we have a temporary product--transformed life experience. Now it is important for us to put our new knowledge into practice immediately and to continue to evaluate its relevance in our lives. The more knowledge can serve us relevantly in our lives, the more we can remember it and put it to use. One of the important points about the meta-model is that a time period is required between completion of the process of reflective learning and the completion of the evaluation feedback loop regarding the relevance of the new knowledge to our life experience. More significant transformation of our life experience (in depth or breadth of application) requires time for assimilation, proportionately more time for greater transformation.

The process of reflective learning described in the meta-model is easy to acquire because it is a natural process. If we focus on this process consciously, with supporting guidance and feedback, we can

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learn to be more effective in our movement through it.[5] In the study reported in the dissertation (see footnote number one), seventy percent of the learners in the experimental group improved the depth of their reflection. This was statistically significant ($p < .05$). They also increased the frequency of their reflection in the moment of action (rather than on the action after it was completed). More than half of the learners in the experimental group attained a level of reflection that indicated movement beyond previous limits to thought or action.

What's important about these observations? In these days in our global society, we need to practice innovative learning rather than "mechanical learning" (without reflection and meaning). The process of reflective learning is one aspect of innovative learning. It is also important for learners to realize the relevance of what they are learning to their life experience; that what they are learning can be applied "on the streets," in business, in their families, as well as in the classroom.

Faculty also need to realize that it is critically important for learners to be involved in their own learning. Classroom environments (and work environments) most supportive of learning are open and encouraging to new ideas. The classroom structure is better for learning when it is internal (like a human skeleton) rather than external (like the shell of a lobster).

When we observe a class with an external structure, we can see lots of order in the learners. They are often organized into rows, listening to the professor, taking notes and, when they have the freedom to do so, asking questions of the professor (the fountain of knowledge). The problem encountered in these classrooms is that the learning itself is without form (like the pulp of a lobster). No one can be sure what the learners are learning.

When we observe a class designed with an internal structure, we can see some of the same things observed in the previous class (with some profound differences). We may also see learners engaging in behavior that appears unorganized, some learners may be speaking more than the professor, and some learners may be working on their own. The structure that supports the learning is embedded in

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[5] In informal studies from 1988-1990, the author received feedback from more than 350 adult learners working with a previous version of the reflective learning process (Montgomery, 1989). Many of these learners reported that, after working consciously with the model for 35 times or more, it had become tacit and they were habitually engaging in reflective learning without the need of supporting tools.

the activities that the learners engage in (Montgomery, 1989). The form and intensity with which the learners engage in these activities will, as always, dictate how much knowledge they gain from their participation. At the same time, the very act of engagement insures that the learners are accomplishing learning goals. Another very important factor in learning (both in and out of the classroom) is feedback. To facilitate learning, feedback needs to be clear, accurate, positive, constructive, and honest. In an internally structured classroom, for both learners and faculty to be aware of what is being learned step-by-step, the feedback needs to be both oral and written and needs to involve some one-on-one interaction. Feedback needs to focus on what has been done well as well as suggesting goals for future improvement.

There is a general difference in the learning acquired in two classrooms. Learning in a classroom environment with external structure usually conforms to the three "R'S" discussed previously. Learning in a classroom working with an internal structure generally conforms to the process described in the meta-model.

Reflection, feedback, and action are essential for improving the quality of any process, including university teaching. Roots of thought linking reflection on experience and improvement of quality have been traced from the time of Confucius (c. 400 B.C.) to the present-day Quality movement.[6] Both faculty and learners can begin the reflective learning process described in the meta-model by asking themselves the following questions:

1. What am I doing right now?
2. Why am I doing this?
3. What are the previewed results of these actions?
4. How can I improve these previewed results?
5. What do I need to do to obtain (produce) better results?

Organization for improvement of quality of university teaching and learning can be done in two ways: First, faculty teams can be formed of individuals who are interested in being actualized and who are interested in improving the quality of their teaching. Second, form teams of faculty and students who are interested in being actualized and in improving the quality of both teaching and learning. The

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[6] See Montgomery (1992), Appendix B.

previewed result from the first quality advancement team is that faculty will improve what they are doing in class and that there will be no feedback regarding increasing the effectiveness of learning. The previewed result from the second quality advancement team is that faculty and learners will improve the quality of what they are doing together in class (both teaching and learning).

A good idea to begin this process of improving the quality of university teaching and learning is to have the people involved on the quality advancement teams learn about the process of reflective learning and learn more about the meta-model for learning. This way the teams can begin together with new knowledge that they can then put into practice in their work as a team.

NOTE:

Many authors have contributed to the thoughts presented in this study. At the end of this presentation, I would like to show a graphic about a comparison of several reflective perspectives. One can see that there are many points in common among these perspectives. The ideas represented by these authors were included in the formation of the meta-model of learning.

Comparison of Reflective Perspectives

Author(s)	Level 0	Level I	Level II	Level III	Level IV
Argyris and Schon (1982)		Single-Loop	Double-Loop		
Bateson (1978)	Learning 0	Learning I	Learning II	Learning III	Learning IV
Cell (1984)	Response	Situation	Trans-Situational	Transcendent	
Freire (1970)	Banking	Praxis	Problem-Solving Dialogue		
Jarvis (1987a)	Presumption Non-Consideration Rejection Pre-Conscious Practice Memorization Contemplation		Reflective Practice	Experimental Learning	
Kolb (1984)	Undifferen-tiated Self		Self as Content *–Interactions*	Self as Process *–Transformations*	
Mezirow (1981)		Consciousness		Critical Consciousness	
Suarez, Mills, & Stewart (1987)	Unaware of Process of Thought		Aware of Process of Thought	Wisdom: Can Change Process of Thought	

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Level 0 = Non-reflective perspective; Level I = Perspective that allows a change in choice of response from a set of responses; Level II = Reflective Perspective that allows a change in boundaries (sets) of responses; Level III = Reflective Perspective that allows a change in systems of responses; Level IV = Reflective Perspective that allows change in the organization of perception (eg., the universe of systems of responses). Each higher level encompasses the action of all lower levels.

This presentation was given at the University of Monterrey in Nueva Leon, Mexico, August 25th, 1993. The presentation was made in Spanish and a Spanish version of this presentation is also available from ERIC. The topic is: *Reflexion, el meta-modelo del aprendizaje, y la propuesta del mejoramiento de la calidad de la docencia* by Joel R. Montgomery.

References

Argyris, C. and Schon, D.A. (1982). *Theory in practice: Increasing professional effectiveness.* San Francisco, CA: Jossey-Bass.

Bateson, G. (1978). *Steps to an ecology of mind.* (First published in 1972.) New York, NY: Ballantine Books.

Cell, E. (1984). *Learning to learn from experience.* Albany, NY: State University of New York Press.

Freire, P. (1970). *Pedagogy of the oppressed.* (Myra Bergman Ramos, Trans.) New York, NY: Seabury.

Jarvis, P. (1987a). *Adult learning in the social context.* London, England: Croom-Helm.

Kolb, D.A. (1984). *Experiential learning.* Englewood Cliffs, NJ: Prentice-Hall.

Mezirow, J. (1981, Fall). A critical theory of adult learning and education. *Adult education quarterly. 32,* pp. 3-24.

Montgomery, J.R. (1989). *Human relations workbook.* Miami, Florida: Florida International University (FIU). (Available on inter-library loan from the FIU Library, University Park Campus, Miami, FL 33199.)

Montgomery, J.R. (1992). *The development, application, and implications of a strategy for reflective learning from experience.* Ann Arbor, MI: University Microfilms International Dissertation Information Service. (300 N. Zeeb Road, Ann Arbor, Michigan 48106 USA [303-761-5700]. Dissertation Order Number 9229831.)

Suarez, R.; Mills, R.C.; and Stewart, D. (1987). *Sanity, insanity, and common sense.* New York, NY: Fawcett Columbine.

Additional References

Alvarez, C.M. (Ed.) (1966). *Migration and ethnicity: A global perspective.* Lexington, MA: Ginn.

Dewey, J. (1963). *Experience and education.* (Originally published in 1938.) New York, NY: Collier Books.

Gibb, J.R. (1978). *Trust: A new view of personal and organizational development.* Los Angeles, CA: Guild of Tutors Press.

Habermas, J. (1989). *The theory of communicative action, Volume 2: Lifeworkd and system: A critique of functionalist reason.* (Thomas McCarthy, Trans.) New York, NY: Beacon Press.

Havighurst, R.J. ; and Orr, B. (1960). Adult education and adult needs. *Supplement 1960: Adult education for our time.* (Available from Center for the Study of Liberal Education of Adults, 4819 Greenwood Ave, Chicago, IL.)

Jarvis, P. (1987b, Spring). Meaningful and meaningless experience: Towards an analysis of learning from life. *Adult education quarterly. 37,* pp. 164-172.

John-Roger and McWilliams, P. (1991). *Do it! Let's get off our buts.* Los Angeles, CA: Prelude Press.

Keeton, M.T.; and Tate, P.J. (1978). *Learning by experience--what, why, and how.* San Francisco, CA: Jossey-Bass.

Kidd, J.R. (1973). *How adults learn* (Revised Ed.) Chicago, IL: Association Press, Follett Publishing.

Knowles, M.S. (1980). *The modern practice of adult education* (Revised and updated.) New York, NY: Cambridge.

Knox, A.B. (1977). *Adult development and learning.* San Francisco, CA: Jossey-Bass.

Kolb, D.A.; and Wolfe, D.M. (1981). *Professional education and career development: A cross sectional study of adaptive competencies in experiential learning.* (ERIC Document Reproduction Service No. ED 209 493)

Lewin, K. (1964). *Field theory in social science.* (Dorwin Cartright, Ed.) (Originally published in 1951.) New York, NY: Harper & Row.

Lewin, K. (1948). *Resolving social conflicts.* (G.W. Lewin, Ed.) New York, NY: Harper & Brothers.

Maslow, A.H. (1970). *Motivation and personality* (2nd Ed). New York, NY: Harper & Row.

McKinzie, L. (1987, Summer). Worldview construction and adult education. *Adult education quarterly. 37,* pp. 230-236.

Merton, R.K. (1968). *Social theory and social structure* (Enlarged Ed.) New York, NY: The Free Press.

Mezirow, J. (1978). Perspective transformation. *Adult education quarterly. 28,* pp. 100-110.

Okun, B.F. (1984). *Working with adults: Individual, family, and career development.* Monterey, CA: Brooks/Cole.

Polanyi, M. (1983). *The tacit dimension.* (Originally published in 1966.) Gloucester, MA: Peter Smith.

Polanyi, M.; and Prosch, H. (1975). *Meaning.* Chicago, IL: University of Chicago Press.

Schon, D.A. (1983). *The reflective practioner.* New York, NY: Basic Books.

Sheehey, G. (1976). *Passages: Predictable crises of adult life.* New York, NY: E.P. Dutton.

Spradley, J.P. (1979). *The ethnographic interview.* New York, NY: Holt, Rinehart, and Winston.

Tice, L. (1980). *New Age thinking for achieving your potential.* Seattle, WA: The Pacific Institute.

Toomer, J.W., Jr. (Ed.) (1985). *Appreciating difference: Readings in the psychology of cultural diversity.* Lexington, MA: Ginn.

Wildemeersch, D.; and Leirman, W. (1988, Fall). The facilitation of the life-world transformation. *Adult education quarterly. 39,* pp. 19-30.

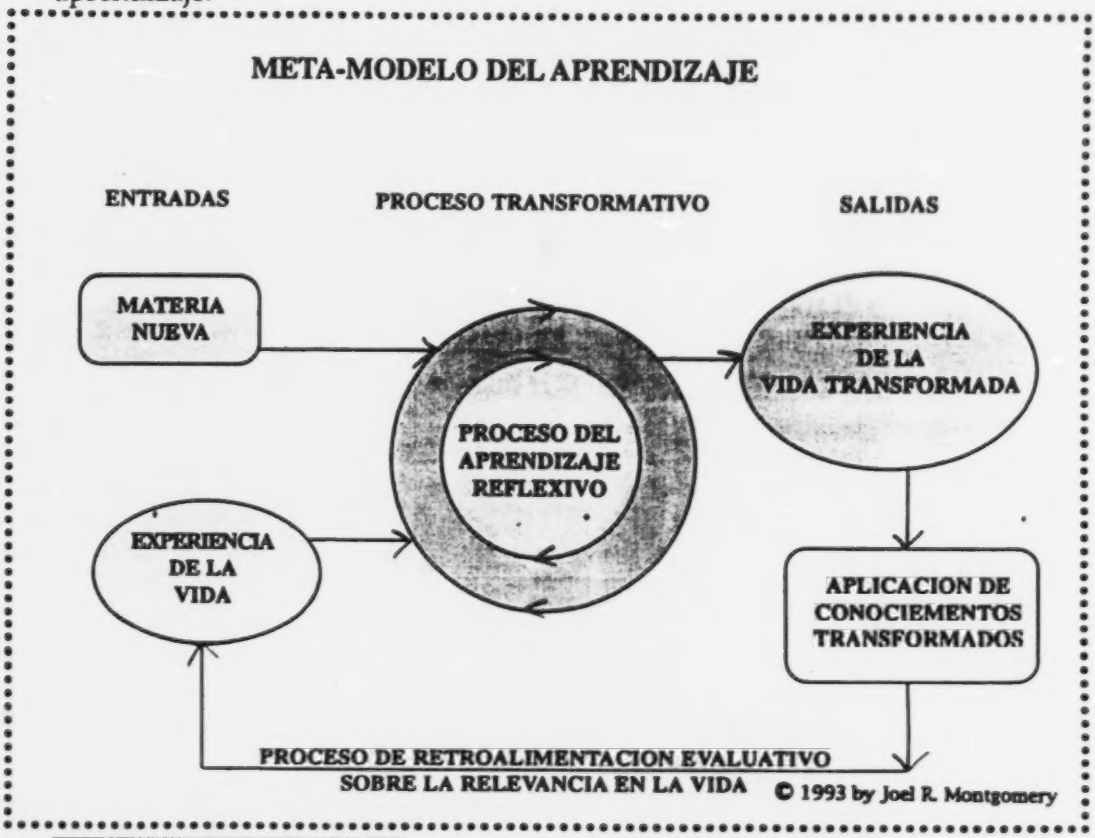
REFLEXION, EL META-MODELO DEL APRENDIZAJE, Y LA PROPUESTA DEL MEJORAMIENTO DE LA CALIDAD DE LA DOCENCIA

por

Joel R. Montgomery, Ed.D.

Necesitamos mejorar nuestra capacidad de hábitos de reflexión en el momento de la acción y no después del momento. A la vez, reflexionar sobre una acción después de que ha ocurrido; también puede mejorar la calidad de las acciones parecidas en un futuro. Este proceso de reflexión es muy importante para el aprendizaje porque da significado y sentido a la experiencia.

Al principio, vamos a tomar una perspectiva alta de una meta-modelo del aprendizaje.[1]



[1] Este meta-modelo fue creado por fusión nueva de partes de muchos otros modelos del aprendizaje. Puede referir a *The development, application, and implications of a strategy for reflective learning from experience*, por Joel R. Montgomery, 1992. Se puede pedir al UMI Dissertation Information Service, 300 N. Zeeb Road, Ann Arbor, Michigan 48106 USA (313-761-4700). El número de la disertación es 9229831.

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En segundo término, vamos a explorar en qué consiste la experiencia de la vida. Esta experiencia tiene muchos componentes, cada uno con sus investigadores.[2]

COMPONENTES DE EXPERIENCIA DE VIDA

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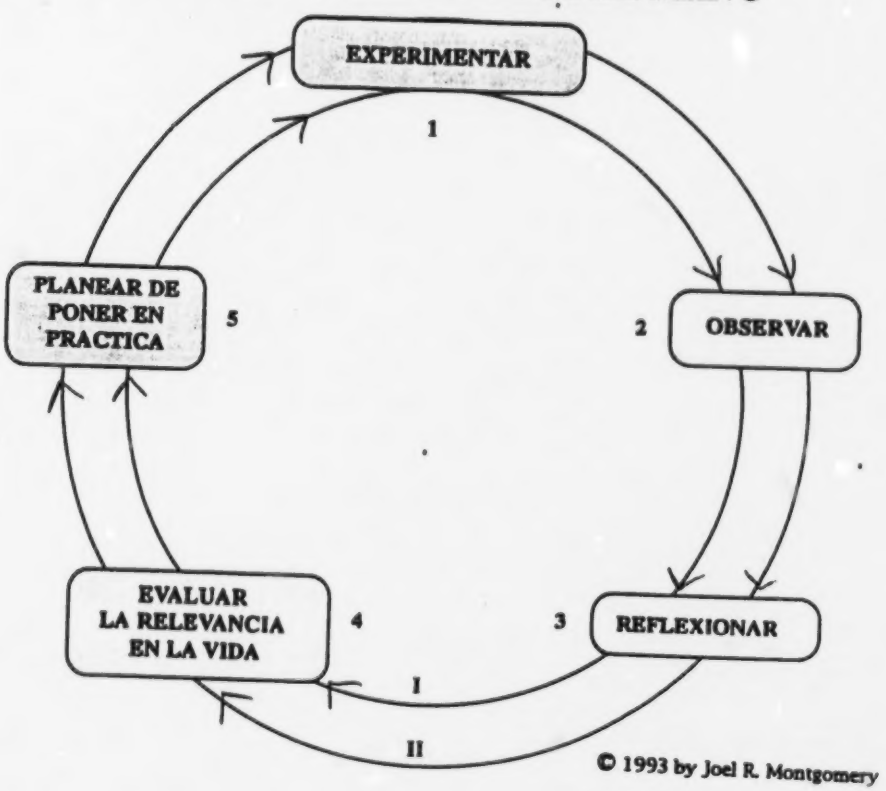
2 Vea a Montgomery (1992) Capitulo III, pp. 57-69.

Las personas tienen que involucrarse en un proceso de aprendizaje reflexivo para integrar la materia nueva en su experiencia de la vida. Si no hace esto, tenemos el problema del "AVO," asimilar lo más importante, echarlo fuera en el examen y olvidarlo lo más pronto posible. En este caso le faltarían los factores de la relevancia y el sentido en la experiencia de la vida.

Caminemos ahora a través del proceso del aprendizaje reflexivo.

EL PROCESO DEL APRENDIZAJE REFLEXIVO



Podremos ver este proceso del aprendizaje reflixivo paso por paso.

Acción	Nivel #1	Nivel #2
1. Experimentar	El alumno participa en una experiencia concreta involucran-do acciones interiores o exteriores de si mismo o de otros.	El alumno pone en práctica los planes para experimentar en el futuro.
2. Observar	El alumno observa acciones específicas de si mismo y de otras personas, acciones internas (como decisiones o elecciones) o externas.	El alumno observa las mismas acciones o elementos como al nivel primero o a las nuevas. Este es una oportunidad para que el alumno practique reflexionar en el momento de la acción.
3. Reflexionar	El alumno reflexiona sobre el impacto de estas acciones o elementos en los risultados de la experiencia y el entendimiento detrás de las acciones.	El alumno hace otra vez el proceso de reflexionar que hizo en el nivel primero. Aumentando con los beneficios del primer proceso de reflexión y los planes para experimentar.
4. Evaluar la relevancia en la vida	El alumno evalúa la relevancia de los conocimientos nuevos en la vida. Si los conocimientos no caben, o si son demasiado conocidos, puede pasar sin sentido. Si los conocimientos tienen valor, puede integrarlos en su vida.	El alumno evalúa la relevancia de sus reflexiones nuevas manteniendo el punto de vista ampliado por los conocimentos nuevos. Tambien se puede expander su punto de vista a este tiempo.

Acción	Nivel #1	Nivel #2
5. Planear de poner en practica	El alumno desarrolla un plan personal para la acción para el futuro. En este plan puede mantener las acciones efectivas y cambiar las acciones que no fueron efectivas.	El alumno revisa su plan personal para la acción, usando acciones efectivas y cambiando acciones no efectivas en el futuro. En este tiempo busca también congruencias comunes en actitudes, acciones, valores o creencias que puede mejorar. Puede hacer este plan de un punto de vista más allá del que tuvo antes.

Después de que hemos hecho el proceso de aprendizaje reflexivo, tenemos un producto momentáneo -es la experiencia de la vida transformada-. Ahora es importante poner en práctica el conocimiento (el entendimiento) nuevo y después, evaluar la relevancia de este conocimiento nuevo a nuestra experiencia de la vida.

Lo más que puede servir un conocimiento en la vida, es lo mejor que podremos recordarlo y utilizarlo.

Uno de los puntos importantes sobre este modelo que he aprendido en mis investigaciones para la disertación, fue que falta un período de tiempo entre el proceso del aprendizaje reflexivo y la conclusión del proceso de retroalimentación evaluativo sobre la relevancia del conocimiento en la experiencia de la vida. Las transformaciones de esta experiencia de la vida demoran su tiempo en ser asimiladas y las más profundas pueden demorar aún más tiempo.

¿Cómo se puede aprender este proceso del aprendizaje reflexivo?. Es fácil aprender porque es un proceso natural, hay que poner solamente la mente en el proceso con un apoyo de una guía y de retroalimentación varias veces (en mi experiencia, unas 35 veces fueron suficiente [Montgomery, 1989]).

Cuando se practica el proceso con la frecuencia suficiente se convierte en un hábito tácito, así que no hay que pensar en el proceso, hay que darse cuenta solamente de los productos del proceso.

Los alumnos en el estudio de mi disertación (personas preparándose para la Licenciatura en Educación) pudieron mejorar su profundidad de reflexión (un 70% mejoraron su profundidad de reflexión. Esto fue con significancia estadística [$p < .05$].)

También ellos han aumentado la frecuencia de la reflexión en la acción (no después de la acción).

Más de la mitad de los alumnos en el grupo experimental, realizaron una reflexión que fue más allá de los límites previos al pensamiento o acción.

¿Qué importancia tienen estas observaciones?. En estos días en nuestra sociedad global, necesitamos el aprendizaje innovador en vez del aprendizaje mecánico (sin reflexión y sin sentido). Este proceso del aprendizaje reflexivo es un modo del aprendizaje innovador.

Este meta-modelo puede servir como base (fundamentación) de una manera nueva de la enseñanza a todos los niveles de la educación.

Es muy importante que los alumnos se den cuenta de lo que están aprendiendo y que tiene relevancia para la experiencia de su vida y que lo que están aprendiendo en el salón de clase se puede usar también en las calles, en las empresas, y en las familias.

Es también importante que los profesores se den cuenta de que los alumnos tienen que ser involucrados en el aprendizaje. Más que todo, el apoyo para el aprendizaje en el salón de clases es un ambiente abierto y positivo a las ideas nuevas. La estructura de la clase, en mi experiencia, es mejor para el aprendizaje cuando es interna -como un esqueleto o armadura de un ser humano- no cuando es externa, -como el esqueleto de una langosta-.

Cuando uno ve una clase que tiene la estructura externa, puede ver mucho orden en los alumnos, en filas bien organizadas, escuchando al profesor, tomando notas y, cuando tienen la libertad de hacerlo, haciendo preguntas al profesor (la fuente del conocimiento). El problema es, como la pulpa de la langosta, cuando se come, no piensas en la estructura. Solamente una estructura externa, no puede asegurar el logro de un aprendizaje.

Cuando uno ve una clase que tiene una estructura interna puede ver las mismas cosas que fueron observadas en la clase previa (con algunas excepciones profundas), o también, puede ver acciones de operación desordenada, los alumnos hablan aún más que el profesor, haciendo el trabajo por sí mismos, etc. La estructura está fundamentada en las actividades en que participan los alumnos y no es visible al observador.

Otra cosa muy importante en el aprendizaje en el salón de clase es la retroalimentación -uno a uno- entre el profesor y cada alumno. Hay que hacerlo, ambos, por escrito y en la conversación. Así, los dos (el alumno y el profesor) pueden saber lo que está ocurriendo paso por paso en el proceso del aprendizaje.

En esta retroalimentación hay que ser honesto y enfocado a lo positivo y la construcción, mejorando lo que puede ser mejorado y reafirmando lo que ya está bien.

El aprendizaje que está ocurriendo es también distinto entre las dos clases. En la clase con el estructura externa es el tipo "AVO". En la clase con el estructura interna conforma al meta-modelo del aprendizaje.

La reflexión, la retro-alimentación, y la acción son essenciales para mejorar la calidad de qualquier proceso, inclusivo de la docencia. Fueron hallado el origen de los ideas que connectan la reflexión en la experiencia y el mejorimento de la calidad del tiempo de Confucio (cerca 400 Ante Christo) hasta en moviemiento del mejoramiento de la calidad de estos dias.[3] Los profesores y los alumnos puedan empezar el proceso de aprendizaje reflexivo contestando a las preguntas seguientes:

1) ¿qué hago ahora mismo?

2) ¿por qué hago esto?

3) ¿cuáles son los resultados previstos de estas acciones?

4) ¿puedo mejorar los resultados previstos?

5) ¿qué hay que cambiar para obtener mejores resultados?

Para mejorar la calidad de la docencia se necesita también la retroalimentación de los alumnos sobre qué están aprendiendo y cómo están poniendo en práctica los conocimientos que adquieren en sus clases. La reflexión, la retroalimentación y la acción son partes esenciales al mejorar la calidad de cualquier proceso.

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3 Vea al Montgomery (1992), Appendix B.

Cuando se quiere mejorar la calidad de la docencia, se dan dos probabilidades: tener profesores interesados en estar actualizados, y a la vez, que deseen mejorar la calidad del aprendizaje de sus alumnos. La segunda es tener profesores y alumnos con el mismo enfoque. Los risultados previstos para la primera posibilidad es que los profesores van a mejorar lo que hacen en la clase. Los resultados previstos para la segunda posibilidad es que los profesores y los alumnos van a mejorar lo que hacen en la clase conjuntamente -- el aprendizaje, la cooperación y la docencia.

Una idea buena para empezar este proceso del mejoramiento de la calidad en las clases es que las personas involucradas aprendan el proceso de aprendizaje reflexivo y algo del meta-modelo del aprendizaje. Así, ellos pudieran comenzar juntos con conocimientos nuevos que puedan poner en práctica en su proceso de mejorar la calidad del aprendizaje, y a la vez, de la docencia.

AVISO:

Muchos autores han contribuido a los pensamientos presentado en este estudio. Al fin de esta presentacion, quiero mostrar un grafico sobre una comparacion de algunas perspectivas reflexivas. Se puede ver que hay puntos comun en estas perspectivas. Los ideas representados por estos autores fueron incluido en la formacion del meta-modelo del aprendizaje.

Comparacion de Perspectiva Reflexiva

Autor(es)	Nivel 0	Nivel I	Nivel II	Nivel III	Nivel IV
Argyris and Schon (1982)		Single-Loop	Double-Loop		
Bateson (1978)	Learning 0	Learning I	Learning II	Learning III	Learning IV
Cell (1984)	Response	Situation	Trans-Situational	Transcendent	
Freire (1970)	Banking	Praxis	Problem-Solving Dialogue		
Jarvis (1987a)	Presumption Non-Consideration Rejection Pre-Conscious	Practice Memorization Contemplation	Reflective Practice	Experimental Learning	
Kolb (1984)	Undifferen-tiated Self		Self as Content *–Interactions*	Self as Process *–Transformations*	
Mezirow (1981)		Consciousness		Critical Consciousness	
Suarez, Mills, & Stewart (1987)	Unaware of Process of Thought		Aware of Process of Thought	Wisdom: Can Change Process of Thought	

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Nivel 0 = Sin una perspectiva reflexiva; Nivel I = Una perspectiva que permite un cambio en eleccion de reaccion de un grupo de reacciones; Nivel II = Una perspectiva reflexiva que permite un cambio en los limites o grupos de reacciones; Nivel III = Una perspectiva reflexiva que permite un cambio en los sistemas de reacciones possibles; Nivel IV = Una perspectiva reflexiva que permite un cambio in el desarrollo de percepcion. Cada nivel superior contiene las posibilidades de todos los niveles inferiores.

Esta presentacion fue hecho a la Universidad de Monterrey, Nueva Leon, Mexico, el 25 de agosto de 1,993. Para una copia mas completo en engles, busca el topico: *Reflection, a Meta-Model of Learning, and A Proposal to Improve the Quality of University Teaching* by Joel R. Montgomery, tambien en el ERIC.

Referencias

Argyris, C. and Schon, D.A. (1982). *Theory in practice: Increasing professional effectiveness.* San Francisco, [illegible] Jossey-Bass.

Bateson, G. (1978). *Steps to an ecology of mind.* (First published in 1972.) New York, NY: Ballantine Books.

Cell, E. (1984). *Learning to learn from experience.* Albany, NY: State University of New York Press.

Freire, P. (1970). *Pedagogy of the oppressed.* (Myra Bergman Ramos, Trans.) New York, NY: Seabury.

Jarvis, P. (1987a). *Adult learning in the social context.* London, England: Croom-Helm.

Kolb, D.A. (1984). *Experiential learning.* Englewood Cliffs, NJ: Prentice-Hall.

Mezirow, J. (1981, Fall). A critical theory of adult learning and education. *Adult education quarterly. 32,* pp. 3-24.

Montgomery, J.R. (1989). *Human relations workbook.* Miami, Florida: Florida International University (FIU). (Available on inter-library loan from the FIU Library, University Park Campus, Miami, FL 33199.)

Montgomery, J.R. (1992). *The development, application, and implications of a strategy for reflective learning from experience.* Ann Arbor, MI: University Microfilms International Dissertation Information Service. (300 N. Zeeb Road, Ann Arbor, Michigan 48106 USA [303-761-5700]. Dissertation Order Number 9229831.)

Suarez, R.; Mills, R.C.; and Stewart, D. (1987). *Sanity, insanity, and common sense.* New York, NY: Fawcett Columbine.

Referencias Adicionales

Alvarez, C.M. (Ed.) (1966). *Migration and ethnicity: A global perspective.* Lexington, MA: Ginn.

Dewey, J. (1963). *Experience and education.* (Originally published in 1938.) New York, NY: Collier Books.

Gibb, J.R. (1978). *Trust: A new view of personal and organizational development.* Los Angeles, CA: Guild of Tutors Press.

Habermas, J. (1989). *The theory of communicative action, Volume 2: Lifeworkd and system: A critique of functionalist reason.* (Thomas McCarthy, Trans.) New York, NY: Beacon Press.

Havighurst, R.J. ; and Orr, B. (1960). Adult education and adult needs. *Supplement 1960: Adult education for our time.* (Available from Center for the Study of Liberal Education of Adults, 4819 Greenwood Ave, Chicago, IL.)

Jarvis, P. (1987b, Spring). Meaningful and meaningless experience: Towards an analysis of learning from life. *Adult education quarterly. 37,* pp. 164-172.

John-Roger and McWilliams, P. (1991). *Do it! Let's get off our buts.* Los Angeles, CA: Prelude Press.

Keeton, M.T.; and Tate, P.J. (1978). *Learning by experience--what, why, and how.* San Francisco, CA: Jossey-Bass.

Kidd, J.R. (1973). *How adults learn* (Revised Ed.) Chicago, IL: Association Press, Follett Publishing.

Knowles, M.S. (1980). *The modern practice of adult education* (Revised and updated.) New York, NY: Cambridge.

Knox, A.B. (1977). *Adult development and learning.* San Francisco, CA: Jossey-Bass.

Kolb, D.A.; and Wolfe, D.M. (1981). *Professional education and career development: A cross sectional study of adaptive competencies in experiential learning.* (ERIC Document Reproduction Service No. ED 209 493)

Lewin, K. (1964). *Field theory in social science.* (Dorwin Cartright, Ed.) (Originally published in 1951.) New York, NY: Harper & Row.

Lewin, K. (1948). *Resolving social conflicts.* (G.W. Lewin, Ed.) New York, NY: Harper & Brothers.

Maslow, A.H. (1970). *Motivation and personality* (2nd Ed). New York, NY: Harper & Row.

McKinzie, L. (1987, Summer). Worldview construction and adult education. *Adult education quarterly. 37,* pp. 230-236.

Merton, R.K. (1968). *Social theory and social structure* (Enlarged Ed.) New York, NY: The Free Press.

Mezirow, J. (1978). Perspective transformation. *Adult education quarterly. 28,* pp. 100-110.

Okun, B.F. (1984). *Working with adults: Individual, family, and career development.* Monterey, CA: Brooks/Cole.

Polanyi, M. (1983). *The tacit dimension.* (Originally published in 1966.) Gloucester, MA: Peter Smith.

Polanyi, M.; and Prosch, H. (1975). *Meaning.* Chicago, IL: University of Chicago Press.

Schon, D.A. (1983). *The reflective practioner.* New York, NY: Basic Books.

Sheehey, G. (1976). *Passages: Predictable crises of adult life.* New York, NY: E.P. Dutton.

Spradley, J.P. (1979). *The ethnographic interview.* New York, NY: Holt, Rinehart, and Winston.

Tice, L. (1980). *New Age thinking for achieving your potential.* Seattle, WA: The Pacific Institute.

Toomer, J.W., Jr. (Ed.) (1985). *Appreciating difference: Readings in the psychology of cultural diversity*. Lexington, MA: Ginn.

Wildemeersch, D.; and Leirman, W. (1988, Fall). The facilitation of the life-world transformation. *Adult education quarterly*. *39*, pp. 19-30.